Gigabit Ethernet Switches

AT-GS900/8
AT-GS900/8E

Installation Guide

613-000140 Rev. A

Allied Telesyn

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Electrical Safety and Emissions Standards

This product meets the following standards.

U.S. Federal Communications Commission

Declaration of Conformity

Manufacturer Name: Allied Telesyn, Inc.

Declares that the product: **Gigabit Ethernet Switches**

Model Numbers: **AT-GS900/8, AT-GS900/8E**

This product complies with FCC Part 15B, Class B Limits:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radiated Energy

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Industry Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RFI Emissions	FCC Class B, EN55022 Class B, EN61000-3-2, EN61000-3-3, VCCI Class B, C-TICK, CE
Immunity	EN55024
Electrical Safety	EN60950 (TUV), UL 60950 ($_{C}UL_{US}$)

Translated Safety Statements

Important: Appendix B contains translated safety statements for installing this equipment. When you see the ℒ, go to Appendix B for the translated safety statement in your language.

Wichtig: Anhang B enthält übersetzte Sicherheitshinweise für die Installation dieses Geräts. Wenn Sie ℒ sehen, schlagen Sie in Anhang B den übersetzten Sicherheitshinweis in Ihrer Sprache nach.

Importante: El Apéndice B contiene mensajes de seguridad traducidos para la instalación de este equipo. Cuando vea el símbolo ℒ, vaya al Apéndice B para ver el mensaje de seguridad traducido a su idioma.

Important : L'annexe B contient les instructions de sécurité relatives à l'installation de cet équipement. Lorsque vous voyez le symbole ℒ, reportez-vous à l'annexe B pour consulter la traduction de ces instructions dans votre langue.

Importante: l'Appendice B contiene avvisi di sicurezza tradotti per l'installazione di questa apparecchiatura. Il simbolo ℒ, indica di consultare l'Appendice B per l'avviso di sicurezza nella propria lingua.

Важно: Приложение B содержит переведенную инструкцию по безопасности при установке данного устройства. Если Вы встретите ℒ, перейдите к Приложению B для получения переведенной инструкции по безопасности.

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Preface

This guide contains instructions on how to configure and maintain the AT-GS900/8 and AT-GS900/8E switches. This preface contains the following sections:

- “Safety Symbols Used in this Document” on page 12
- “Where to Find Web-based Guides” on page 13
- “Contacting Allied Telesyn” on page 14

Safety Symbols Used in this Document

This document uses the safety symbols defined in Table 1.

Table 1. Safety Symbols

Symbol	Meaning	Description
	Caution	Performing or omitting a specific action may result in equipment damage or loss of data.
	Warning	Performing or omitting a specific action may result in electrical shock.

Where to Find Web-based Guides

The installation and user guides for all Allied Telesyn products are available in portable document format (PDF) on our web site at **www.alliedtelesyn.com**. You can view the documents online or download them onto a local workstation or server.

Contacting Allied Telesyn

This section provides Allied Telesyn contact information for technical support as well as sales and corporate information.

Online Support

You can request technical support online by accessing the Allied Telesyn Knowledge Base: **http://kb.alliedtelesyn.com**. You can use the Knowledge Base to submit questions to our technical support staff and review answers to previously asked questions.

Email and Telephone Support

For Technical Support via email or telephone, refer to the Support & Services section of the Allied Telesyn web site: **www.alliedtelesyn.com**.

Returning Products

Products for return or repair must first be assigned a return materials authorization (RMA) number. A product sent to Allied Telesyn without an RMA number will be returned to the sender at the sender's expense.

To obtain an RMA number, contact Allied Telesyn Technical Support through our web site: **www.alliedtelesyn.com**.

Sales or Corporate Information

You can contact Allied Telesyn for sales or corporate information through our web site: **www.alliedtelesyn.com**. To find the contact information for your country, select Contact Us -> Worldwide Contacts.

Management Software Updates

New releases of management software for our managed products are available from either of the following Internet sites:

- Allied Telesyn web site: **www.alliedtelesyn.com**
- Allied Telesyn FTP server: **ftp://ftp.alliedtelesyn.com**

If you prefer to download new software from the Allied Telesyn FTP server from your workstation's command prompt, you will need FTP client software and you must log in to the server. Enter "anonymous" for the user name and your email address for the password.

Chapter 1
Overview

The AT-GS900/8 and AT-GS900/8E switches are unmanaged, Layer 2 Gigabit Ethernet switches designed to simplify the task of creating or expanding an Ethernet, Fast Ethernet, or Gigabit Ethernet network.

This chapter contains the follows sections:

- “Features” on page 16
- “Front and Back Panels” on page 17
- “Ports” on page 18
- “LEDs” on page 19
- “Power Supplies” on page 21
- “Ethernet Switching Basics” on page 22
- “Network Topologies” on page 25

Features

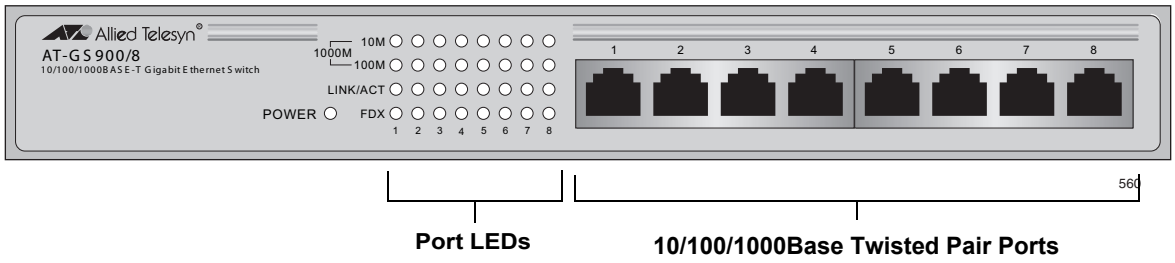
The features of the AT-GS900/8 and AT-GS900/8E switches include:

- LEDs for unit and port status
- Eight Auto-Negotiating 10/100/1000Base-T twisted pair ports with RJ-45 connectors
- External power adapter (for AT-GS900/8LE model only)
- Auto MDI/MDI-X on all ports
- IEEE 802.3 and IEEE 802.3u compliant
- IEEE 802.3x flow control in full-duplex operation; back pressure and flow control in half-duplex operation
- Store and forward switching mode
- MAC address table capacity of up to 4K addresses with automatic aging

Front and Back Panels

Figure 1 illustrates the front panels of the AT-GS900/8 and AT-GS900/8E switches.

AT-GS900/8



AT-GS900/8E

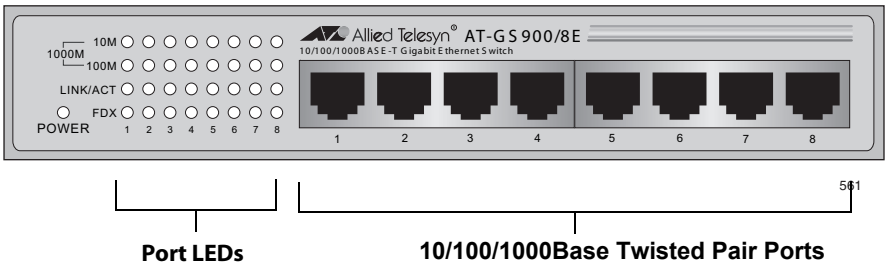
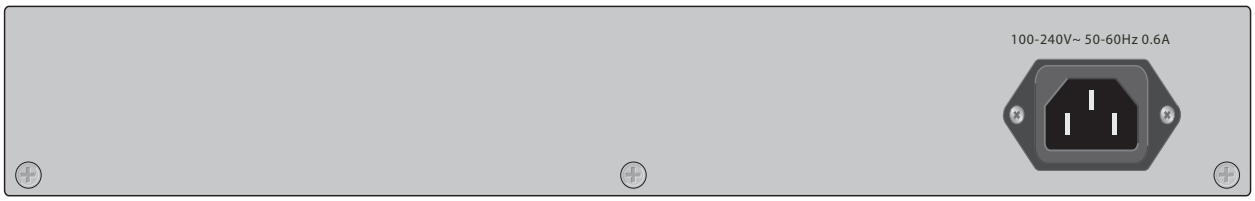


Figure 1. AT-GS900/8 and AT-GS900/8E Front Panels

Figure 2 illustrates the back panels of the AT-GS900/8 and AT-GS900/8E switches.

AT-GS900/8



AT-GS900/8E

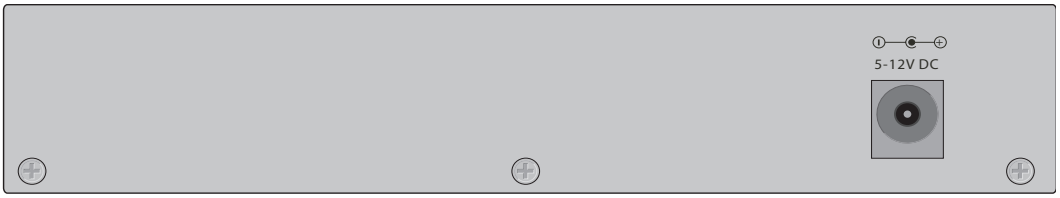


Figure 2. AT-GS900/8 and AT-GS900/8E Back Panels

Ports

The AT-GS900/8 and AT-GS900/8E switches feature eight twisted pair ports.

The twisted pair ports feature 8-pin RJ-45 connectors. (For the port pinouts, refer to “Connectors and Port Pinouts” on page 48.

The ports are 10Base-T, 100Base-TX, and 1000Base-T compliant and are capable of 10 megabits per second (Mbps), 100 Mbps, and 1000 Mbps speeds. The ports are IEEE 802.3u Auto-Negotiation compliant. With Auto-Negotiation, the switch automatically matches the highest possible common speed between each switch port and each end node. For example, if an end node is capable of only 10 Mbps, the switch sets the port connected to the end node to 10 Mbps.

Each twisted pair port on the switch can operate in either half- or full-duplex mode. The twisted pair ports are IEEE 802.3u-compliant and will Auto-Negotiate the duplex mode setting.

Note
In order for the switch to set the duplex mode for each port correctly, the end nodes that you connect to the switch ports should also use Auto-Negotiation. Otherwise, a duplex mode mismatch can occur, affecting network performance. For further information, refer to “Duplex Mode” on page 22.

Each twisted pair port has a maximum operating distance of 100 m (328 feet).

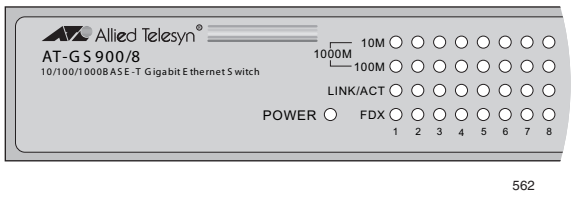
For 10 Mbps operation, Category 3 or better 100 ohm shielded or unshielded twisted pair cabling is required. For 100 or 1000 Mbps operation, Category 5 and Enhanced Category 5 (5E) 100 ohm shielded or unshielded twisted pair cabling is required.

The twisted pair ports are auto-MDI. They automatically configure themselves as either MDI or MDI-X. This feature allows you to use either straight-through or crossover twisted pair cables to connect devices to the ports.

LEDs

The LEDs on the front panel display the system and port status information. Each port has four LEDs as shown in Figure 3.

AT-GS900/8



AT-GS900/8E

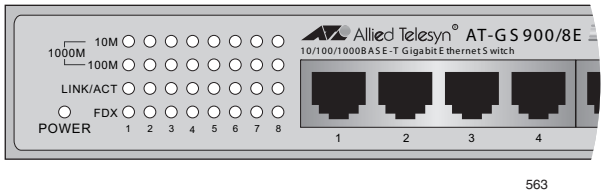


Figure 3. AT-GS900/8 and AT-GS900/8E System and Port LEDs

Table 2 describes the AT-GS900/8 and AT-GS900/8E system and port LEDs.

Table 2. System and Port LED Descriptions

LED	State	Description
POWER	Off	The switch is not receiving power.
	On	The switch is receiving power.
10M	Solid Green	The port is operating at 10 Mbps.
100M	Solid Green	The port is operating at 100 Mbps.
10M and 100M	Solid Green	The port is operating at 1000 Mbps.
LINK/ACT	Off	The port has not established a link with an end node.
	Blinking Green	The port is transmitting or receiving data.
	Green	A valid link has been established on the port.

Table 2. System and Port LED Descriptions (Continued)

LED	State	Description
FDX	Off	The port is operating in half-duplex mode.
	Green	The port is operating in full-duplex mode.

Power Supplies

The AT-GS900/8 switch has a single AC power supply socket on the back panel which features autoswitch AC inputs. To power the switch on or off, connect or disconnect the power cord provided with the switch.

The AT-GS900/8E switch uses an external AC/DC power adapter provided with the switch, as shown in Figure 4.

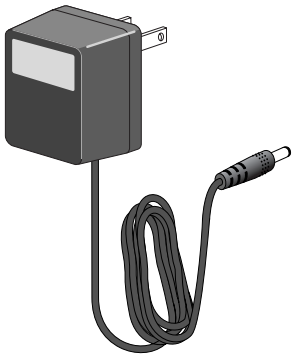


Figure 4. External Power Adapter for the AT-GS900/8E Model

Note
For the power requirements, refer to “Power Specifications” on page 47.

Ethernet Switching Basics

An Ethernet switch interconnects network devices, such as workstations, printers, routers, and other Ethernet switches, so that they can communicate with each other by sending and receiving Ethernet frames.

MAC Address Table

Every hardware device on your network has a unique MAC address. This address is assigned to the device by the device's manufacturer. For example, when you install a Network Interface Card (NIC) in a computer so that you can connect it to the network, the NIC already has a MAC address assigned to it by its manufacturer.

The MAC address table in the AT-GS900/8 and AT-GS900/8E switches can store up to 4K MAC addresses. The switch uses the table to store the MAC addresses of the network end nodes connected to the ports, along with the port number on which each address was learned.

A switch learns the MAC addresses of the end nodes by examining the source address of each packet received on a port. It adds the address and port on which the packet was received to the MAC table if the address had not already been entered in the table. The result is a table that contains all the MAC addresses of the devices that are connected to the switch's ports, and the port number where each address was learned.

When the switch receives a packet, it also examines the destination address and, by referring to its MAC address table, determines the port on which the destination end node is connected. It then forwards the packet to the appropriate port and on to the end node. This increases network bandwidth by limiting each frame to the appropriate port when the intended end node is located, freeing the other switch ports for receiving and transmitting data.

If the switch receives a packet with a destination address that is not in the MAC address table, it floods the packet to all the ports on the switch. If the ports have been grouped into virtual LANs, the switch floods the packet only to those ports which belong to the same VLAN as the port on which the packet was received. This prevents packets from being forwarded into inappropriate LAN segments, decreasing network security. When the destination end node responds, the switch adds its MAC address and port number to the table.

If the switch receives a packet with a destination address that is on the same port on which the packet was received, it discards the packet without forwarding it on to any port. Since both the source end node and the destination end node for the packet are located on the same port on the switch, there is no reason for the switch to forward the packet.

Duplex Mode

Duplex mode refers to how an end node receives and transmits data. If an

end node can receive or transmit data, but not both simultaneously, the end node is operating in what is referred to as half-duplex mode. If an end node can both receive and transmit data simultaneously, the end node is said to be operating in full-duplex mode. Naturally, an end node capable of operating in full-duplex can handle data much faster than an end node that can only operate in half-duplex mode.

The twisted pair ports on the AT-GS900/8 and AT-GS900/8E switches can operate in either half-or full-duplex mode. They are IEEE 802.3u-compliant and use Auto-Negotiation to set the duplex mode setting for you automatically.

For Auto-Negotiation to operate properly on a switch, the end nodes connected to the switch should also use Auto-Negotiation. If an end node does not have this feature and has a fixed duplex mode of full-duplex, the result will be a duplex mode mismatch between the end node and a switch port. A port on the Gigabit Ethernet switch connected to an end node with a fixed duplex mode of full-duplex will operate at only half-duplex. This results in the end node using full-duplex and the switch port using half-duplex. This can produce network performance problems. Should you encounter this situation, you must configure the port on the end node to use Auto-Negotiation or, if it lacks that feature, to half-duplex.

Note
Since the ports on the AT-GS900/8 and AT-GS900/8E switches operate in Auto-Negotiate mode only, the end nodes connected to the AT-GS900/8 or AT-GS900/8E switch must also be configured to operate in the Auto-Negotiate mode. If an end node is configured to a specific duplex in a manual mode, it will not respond to the Auto-Negotiate protocol from the AT-GS900/8 or AT-GS900/8E switch. (The speed is determined from the link pulses, however, so the speed is always detected correctly.) As a result, the port setting on the AT-GS900/8 or AT-GS900/8E switch will end up at half-duplex. If the end node is manually configured to full-duplex, there will be a duplex mismatch and data will be lost. If the end node is manually configured to half-duplex, both ports will have the speed and duplex match up correctly.

Store and Forward

The AT-GS900/8 and AT-GS900/8E switches use store and forward as the method for receiving and transmitting frames. When a Ethernet frame is received on a switch port, the switch does not retransmit the frame out the destination port until it has received the entire frame and stored the frame in a port buffer. It then examines the frame to determine if it is a valid frame. Invalid frames, such as fragments or runts, are discarded by the switch. This insures that only valid frames are transmitted out the switch ports and that damaged frames are not propagated on your network.

Back Pressure and Flow Control

To maintain the orderly movement of data between the end nodes, an Ethernet switch may periodically need to signal an end node to stop sending data. This can occur under several circumstances. For example, if two end nodes are operating at different speeds, the switch, while transferring data between the end nodes, might need to instruct the faster end node to stop transmitting data to allow the slower end node to catch up. An example of this would be when a server operating at 100 Mbps is sending data to a workstation operating at only 10 Mbps.

How a switch signals an end node to stop transmitting data differs depending on the speed and duplex mode of the end node and switch port. A twisted pair port operating at 100 Mbps and half-duplex mode will stop an end node from transmitting data by forcing a collision. A collision on an Ethernet network occurs when two end nodes attempt to transmit data using the same data link at the same time. A collision causes end nodes to stop sending data. When the switch needs to stop a 100 Mbps, half-duplex end node from transmitting data, it forces a collision on the data link, which stops the end node. When the switch is ready to receive data again, the switch stops forcing collisions. This is referred to as back pressure.

A port operating at 100 Mbps and full-duplex mode uses PAUSE frames, as specified in the IEEE 802.3x standard, to stop the transmission of data from an end node. Whenever the switch wants an end node to stop transmitting data, it issues this frame. The frame instructs the end node to cease transmission. The switch continues to issue PAUSE frames until it is ready again to receive data from the end node. This is referred to as flow control.

The AT-GS900/8 and AT-GS900/8E switches support both TX and RX flow control.

Network Topologies

This section illustrates two network topologies that you can create with the AT-GS900/8 and AT-GS900/8E switches: a power workgroup and collapsed backbone. Both types of topologies are described below.

Power Workgroup Topology

The topology shown in Figure 5 is commonly referred to as a power workgroup topology. Each workstation or end node is connected directly to a port on the AT-GS900/8 switch. Each end node has a dedicated data link to the switch for best performance and reliability. The devices can operate at 10 Mbps, 100 Mbps or 1000 Mbps.

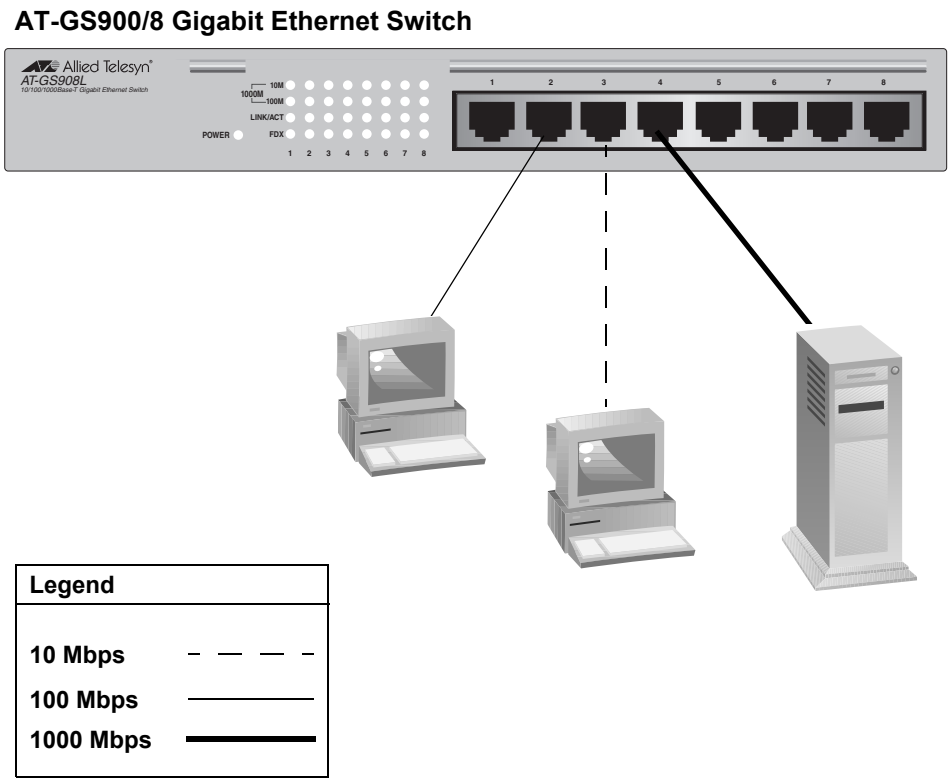


Figure 5. Power Workgroup Topology

Collapsed Backbone

In the topology illustrated in Figure 6, an AT-GS900/8E connects Fast Ethernet switches that have Gigabit Ethernet uplinks. This type of topology is often referred to as a collapsed backbone topology. The switch functions as the focal point of the network and transfers an Ethernet frame between the Fast Ethernet switches only when the destination end node for the frame is on a different switch than the end node that originated the frame. This reduces the amount of unnecessary data traffic in each workgroup, freeing up bandwidth and improving network performance.

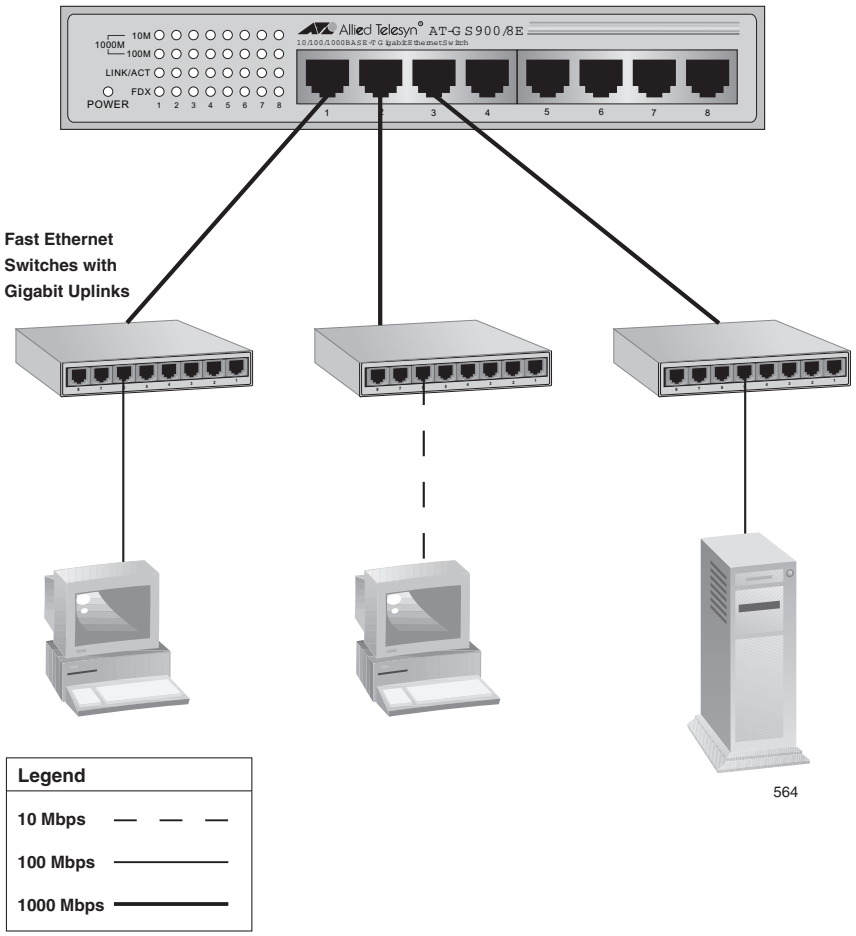


Figure 6. Collapsed Backbone - Hub Topology

Chapter 2

Installation

This chapter contains the following sections:

- “Reviewing Safety Precautions” on page 28
- “Selecting a Site for the Switch” on page 30
- “Cabling” on page 31
- “Unpacking the Switch” on page 32
- “Using a Switch on a Desktop” on page 34
- “Installing the Power Cord Retaining Clip on the AT-GS900/8L Switch” on page 35
- “Mounting a Switch on the Wall” on page 37
- “Installing a Switch in a Rack” on page 39
- “Wiring the Switch” on page 41
- “Powering On a Switch” on page 42
- “Warranty Registration” on page 44

Reviewing Safety Precautions

Please review the following safety precautions before you begin to install the chassis or any of its components.

Note
When you see the ✍, go to Appendix B, “Translated Safety Statements” on page 51 for translated safety statements.

⚠ **Warning:** To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables. ✍3

⚠ **Warning:** Do not work on equipment or cables during periods of lightning activity. ✍4

⚠ **Warning:** Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. ✍5

⚠ **Warning:** Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts. ✍6

Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible. ✍7

⚠ **Caution:** Air vents must not be blocked and must have free access to the room ambient air for cooling. ✍8

Warning: Operating Temperature. This product is designed for a maximum ambient temperature of 40° degrees C. ✍9

All Countries: Install product in accordance with local and National Electrical Codes. ✍10

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern. 23

Warning: Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading. 27

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra). 38

Caution: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. 39

Warning: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuits (e.g., use of power strips). 40

Selecting a Site for the Switch

Observe the following requirements when choosing a site for your switch:

- ❒ If you plan to install the switch in an equipment rack, ensure that the rack is safely secured and that it will not tip over. Devices in a rack should be installed starting at the bottom, with the heavier devices near the bottom of the rack.
- ❒ If you are installing the switch on a table, ensure that the table is level and secure.
- ❒ The power outlet for the switch should be located near the unit and should be easily accessible.
- ❒ The site should provide for easy access to the ports on the front of the switch. This will make it easy for you to connect and disconnect cables, as well as view the switch's LEDs.
- ❒ To allow proper cooling of the switch, air flow around the unit and through its vents on the side and rear should not be restricted.
- ❒ Do not place objects on top of the switch.
- ❒ Do not expose the switch to moisture or water.
- ❒ Ensure that the site is a dust-free environment.
- ❒ You should use dedicated power circuits or power conditioners to supply reliable electrical power to the network devices.

Cabling

Table 3 contains the cabling specifications for the twisted pair ports.

Table 3. Twisted Pair Cabling and Distances

Speed	Type of Cable	Maximum Operating Distance
10 Mbps	Category 3 or better 100-ohm shielded or unshielded twisted pair cable	100 m (328 ft)
100 Mbps	Category 5 or Category 5E (Enhanced) 100-ohm shielded or unshielded twisted pair cable	100 m (328 ft)
1000 Mbps	Category 5 and Category 5E (Enhanced) 100-ohm shielded or unshielded twisted pair cable	100 m (328 ft)

Note
The twisted pair ports on the switch feature auto-MDI when operating at either 10 or 100 or 1000 Mbps. Each port is individually configured as MDI or MDI-X when connected to an end node. Consequently, you can use either a straight-through or crossover twisted pair cable when connecting any network device to a twisted pair port on the switch.

Unpacking the Switch

To unpack the switch, perform the following procedure:

1. Remove all components from the shipping package.

   Note
   Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesyn.

2. Place the switch on a level, secure surface.

3. Ensure the following hardware components are included in your switch package. If any item is missing or damaged, contact your Allied Telesyn sales representative for assistance.

   For the AT-GS900/8:

   - ❒ One AT-GS900/8 Gigabit Ethernet switch
   - ❒ Two rack-mount brackets
   - ❒ Four rack-mount screws
   - ❒ Four rubber feet (for desktop use)
   - ❒ Two plastic anchors (for wall mounting)
   - ❒ Two flat-head self-tapping screws (for wall mounting)
   - ❒ One power cord
   - ❒ One power cord retaining clip
   - ❒ One power adapter (with AT-GS900/8LE model only)
   - ❒ Documentation CD
   - ❒ Warranty card

   For the AT-GS900/8E:

   - ❒ One AT-GS900/8E Gigabit Ethernet switch
   - ❒ Four rubber feet (for desktop use)
   - ❒ Two plastic anchors (for wall mounting)
   - ❒ Two flat-head self-tapping screws (for wall mounting)
   - ❒ One power adapter
   - ❒ Documentation CD
   - ❒ Warranty card

   As an option, the following item is available separately:

- Magnet kit

For additional information on the magnet kit, please consult your ATI sales representative.

Using a Switch on a Desktop

You can place AT-GS900/8 and AT-GS900/8E switches on a desktop or install them in a 19-inch rack. To install the switch in a rack, refer to “Installing a Switch in a Rack” on page 39.

To place the switch on a desktop, perform the following procedure:

1. Remove all equipment from the package and store the packaging material in a safe place.

2. Attach the four rubber feet to the bottom of the switch as shown in Figure 7.

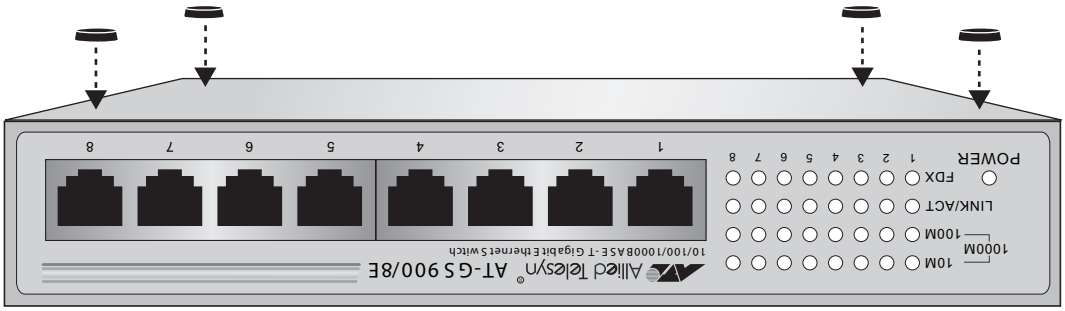


Figure 7. Attaching the Rubber Feet

3. Place the switch on a flat, secure surface (such as a desk or table) leaving ample space around the unit for ventilation.

Installing the Power Cord Retaining Clip on the AT-GS900/8L Switch

To install the power cord retaining clip on the AT-GS900/8 switch, perform the following procedure:

> **Note**
> Install the power cord retaining clip before you install the switch in a rack.

1. Locate the power cord retaining clip, as shown in Figure 8.

Figure 8. Power Cord Retaining Clip

2. Locate the retaining bracket on each side of the AC power connector on the back of the switch, as shown in Figure 9.

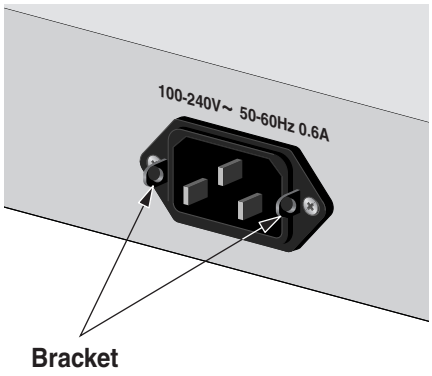


Figure 9. Power Cord Retaining Bracket

3. With the “u” of the clip facing up, press the sides of the clip toward the center and insert the short ends into the holes in the retaining bracket, as shown in Figure 10.

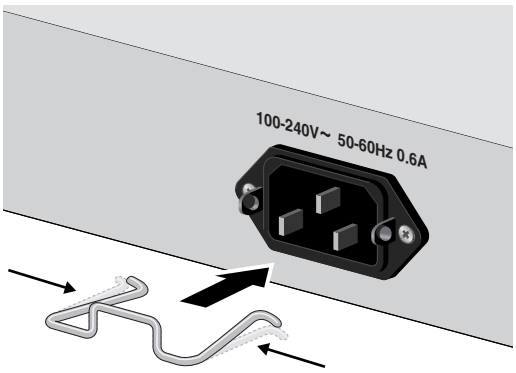


Figure 10. Inserting the Retaining Clip into the Retaining Bracket

4. Verify that the retaining clip is in the correct position, as shown in Figure 11.

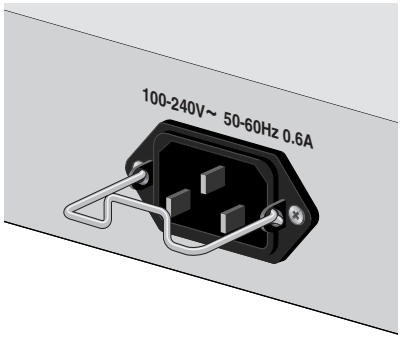


Figure 11. Retaining Clip Installed in the Retaining Bracket

Mounting a Switch on the Wall

To mount the AT-GS900/8 or AT-GS900/8E switch on a wall, perform the following procedure:

1. Remove all equipment from the package and store the packaging material in a safe place.

2. Select a wall location and mark two hole locations for the anchors, 100 mm (3.93 in) apart.

   Note
   The switch can be mounted horizontally or vertically. This procedure shows the horizontal mounting.

3. At the two marked hole locations, pre-drill for the drywall anchors using a 4.5 mm (3/16 in) drill bit.

4. Install the anchors and drive the screws into the anchors leaving approximately 4.8 mm (3/16 in) exposed.

5. Align the keyholes on the back with the screw heads, as shown in Figure 12.

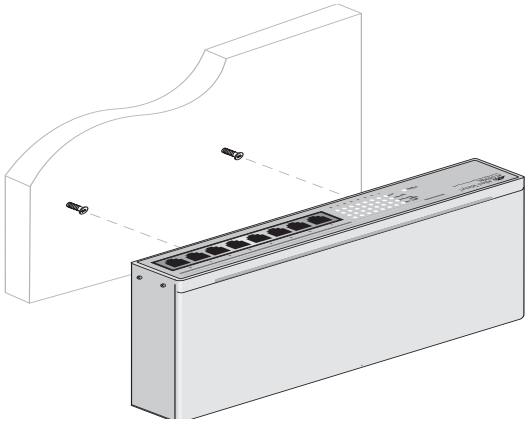


Figure 12. Aligning an AT-GS900/8E Switch for Mounting on the Wall

6. Place the keyhole slots on the bottom of the switch over the screw heads, as shown in Figure 13.

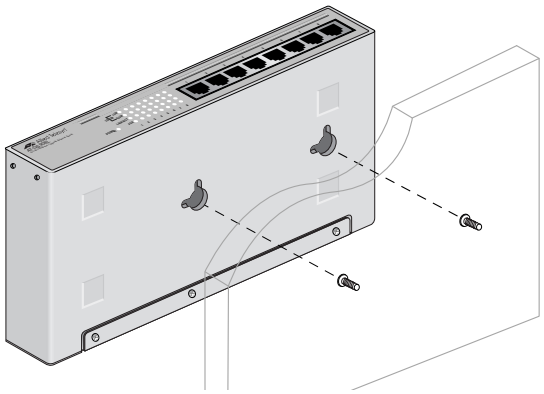


Figure 13. Mounting an AT-GS900/8E Switch on the Wall

7. Slide the switch down onto the screw heads so that the switch is securely mounted on the wall.

Installing a Switch in a Rack

To install the AT-GS900/8 or AT-GS900/8E switch in a rack, perform the following procedure:

1. If attached, remove the rubber feet using a flat-head screwdriver.
2. Install a bracket on one side of the switch using a Phillips screwdriver and two of the rack-mount screws included with the switch, as shown in Figure 14.

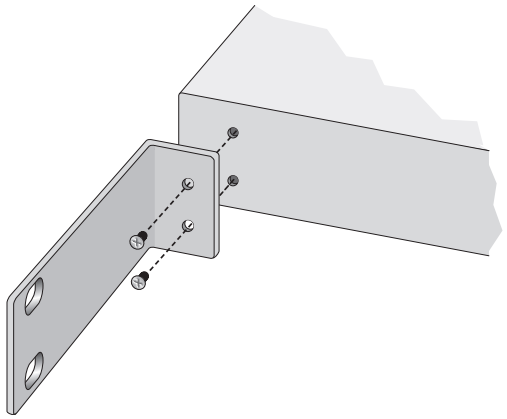


Figure 14. Attaching the Rack-Mount Bracket

3. Repeat step 2 to attach the remaining bracket to the other side of the switch.
4. Mount the switch in a 19-inch rack using appropriate screws (not provided).

Warning: To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables. 3

Warning: Do not work on equipment or cables during periods of lightning activity. 4

Warning: Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. 5

Warning: Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts. 6

Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible. 7

Caution: Air vents must not be blocked and must have free access to the room ambient air for cooling. 8

Warning: Operating Temperature. This product is designed for a maximum ambient temperature of 40° degrees C. 9

Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern. 23

Warning: Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading. 27

If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer’s maximum rated ambient temperature (Tmra). 38

Caution: Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. 39

Warning: Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuits (e.g., use of power strips). 40

Wiring the Switch

To connect the twisted cables to the RJ-45 ports on the AT-GS900/8 or AT-GS900/8E switch, perform the following procedure:

1. Plug the twisted pair data cables to the RJ-45 ports on the switch, as shown in Figure 15.

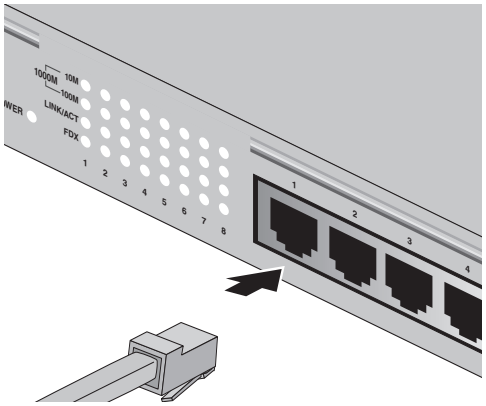


Figure 15. Connecting the Twisted Pair Data Cables

When connecting a twisted pair cable to a port, observe the following guidelines:

- An RJ-45 connector should fit snugly into the port on the switch. The tab on the connector should lock the connector into place.
- The ports on the switch are auto-MDI/MDI-X when operating at 10, 100, or 1000 Mbps. You can use either a straight-through or crossover twisted pair cable to connect any type of network device to a port on the switch when operating at either 10, 100, or 1000 Mbps.
- The network should not contain data loops, which can adversely affect network performance. A data loop exists when two or more network devices can communicate with each other over more than one data path.

2. Connect the other end of the twisted pair cable to a port in the end node.

Powering On a Switch

For power requirements, refer to “Power Specifications” on page 47.

Powering On an AT-GS900/8 Switch

To power on an AT-GS900/8 switch, perform the following procedure:

1. Position the power cord retaining clip in the up position, as shown in Figure 16.

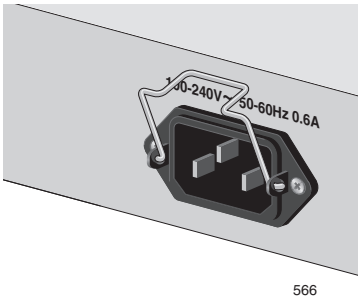


Figure 16. Power Cord Retaining Clip in the Up Position

2. Plug the power cord into the AC power connector on the back of the switch, as shown in Figure 17.

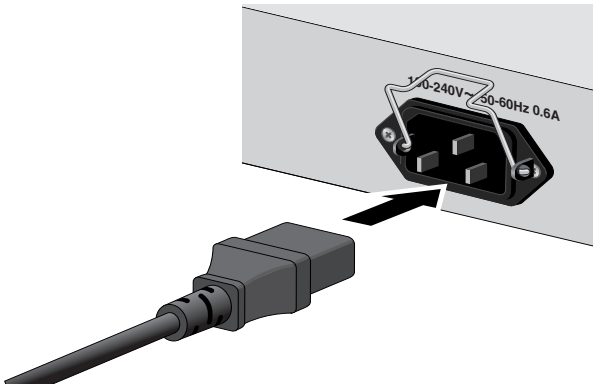


Figure 17. Plugging in the AC Power Cord

3. Secure the power cord by lowering the retaining clip, as shown in Figure 18.

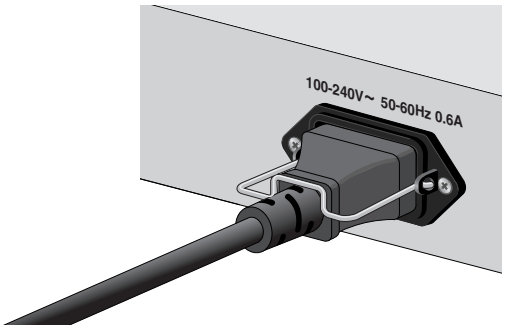


Figure 18. Securing the Power Cord with the Retaining Clip

4. Plug the other end of the power cord into a wall outlet.

> **Warning:** Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. 5

> Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible. 7

5. Verify that the POWER LED is green. If the LED is OFF, refer to Chapter 3, “Troubleshooting” on page 45.

   The switch is now powered on and ready for network operations.

Powering On an AT-GS900/8E Switch

To power on an AT-GS900/8E switch, perform the following procedure:

1. Plug the power cord on the power adapter into the power connector on the back panel of the AT-GS900/8E switch, as shown in Figure 19.

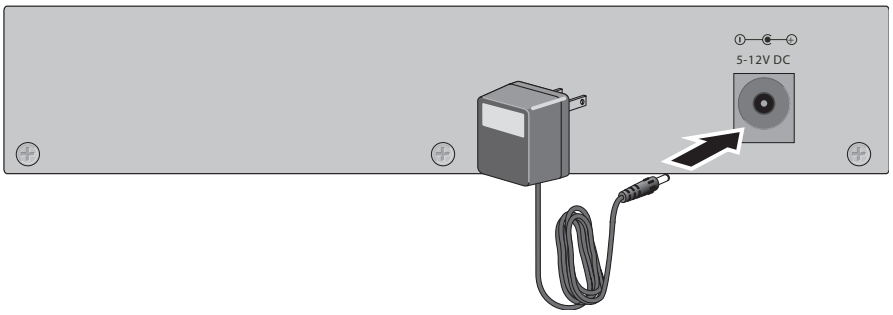


Figure 19. Connecting the Power Adapter

2. Plug the adapter into a power outlet.

> **Warning:** Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. 5

3. Verify that the POWER LED is green. If the LED is OFF, refer to Chapter 3, “Troubleshooting” on page 45.

   The switch is now powered on and ready for network operations.

Warranty Registration

After installing your switch, you can register your product by completing the enclosed warranty card and sending it to Allied Telesyn.

Chapter 3
Troubleshooting

This chapter contains information on how to troubleshoot the switch in the event that a problem occurs.

> **Note**
> If you need further assistance, please contact Allied Telesyn Technical Support. Refer to “Contacting Allied Telesyn” on page 14.

AT-GS900/8 switch: Check the POWER LED on the front of the switch. If the LED is off, indicating that the unit is not receiving power, do the following:

- Ensure that the power cord is securely connected to the power source and to the AC connector on the back panel of the switch.
- Verify that the power outlet has power by connecting another device to it.
- Try connecting the unit to another power source.
- Try using a different power cord.
- Verify that the voltage from the power source is within the required levels for your region.

AT-GS900/8E switch: Check the POWER LED on the front of the switch. If the LED is off, indicating that the unit is not receiving power, do the following:

- Ensure that the power adapter is securely connected to the power source and to the power connector on the back panel of the switch.
- Verify that the power outlet has power by connecting another device to it.
- Try connecting the unit to another power source.
- Verify that the voltage from the power source is within the required levels for your region.

Verify that the LINK/ACT LED for each port is ON. If a LINK/ACT LED is OFF, do the following:

- Verify that the end node connected to the port is powered on and is operating properly.

- ❒ Verify that the twisted pair cable is securely connected to the port on the switch and to the port on the end node.
- ❒ Ensure that the twisted pair cable does not exceed 100 meters (328 feet).
- ❒ Verify that you are using the appropriate category of twisted pair cable: Category 3 or better for 10 Mbps operation and Category 5 and Category 5E for 100 and 1000 Mbps operation.

Note
A 1000Base connection may require five to ten seconds to establish a link.

Appendix A

Technical Specifications

Physical Specifications

Dimensions:	AT-GS900/8	249 mm x 114 mm x 38 mm (9.80 in x 4.49 in x 1.5 in)
	AT-GS900/8E	195 mm x 114 mm x 38 mm (7.68 in x 4.49 in x 1.5 in)
Weight:	AT-GS900/8	900 g (1.98 lbs)
	AT-GS900/8E	650 g (1.43 lbs)

Environmental Specifications

Operating Temperature:	0° C to 40° C (32° F to 104° F)
Storage Temperature:	-25° C to 70° C (-13° F to 158° F)
Operating Humidity:	5% to 90% non-condensing
Storage Humidity:	5% to 95% non-condensing
Operating Altitude Range:	Up to 3,000 m (9,843 ft)

Power Specifications

Input Supply Voltage:	AT-GS900/8	100 - 120 VAC
	AT-GS900/8E	120 VAC (US) 230 VAC (UK) 240 VAC (EU/AUS)
Power Consumption:	15 watts (max)	

Safety and Electromagnetic Emissions Certifications

EMI/RFI:	FCC Class B, EN55022 Class B, VCCI Class B, CISPR Class B

Immunity:	EN55024
Electrical Safety:	EN60950 (TUV), UL60950 ($_cUL_{us}$), CSA, C-TICK, CE

Connectors and Port Pinouts

This section lists the connectors and connector pinouts for the AT-GS900/8 and AT-GS900/8E switches and their components.

Figure 20 illustrates the pin layout to an RJ-45 connector and port.

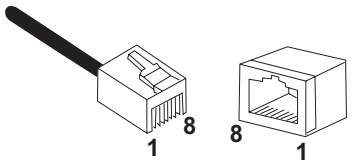


Figure 20. RJ-45 Connector and Port Pin Layout

Table 4 lists the RJ-45 pin signals when a twisted pair port is operating in the MDI configuration.

Table 4. MDI Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	TX+
2	TX-
3	RX+
6	RX-

Table 5 lists the RJ-45 port pin signals when a twisted pair port is operating in the MDI-X configuration.

Table 5. MDI-X Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	RX+
2	RX-
3	TX+
6	TX-

Table 6 lists the RJ-45 connector pins and their signals when a

1000Base-T port is operating at 1000 Mbps.

Table 6. RJ-45 1000Base-T Connector Pinouts

Pin	Pair	Signal
1	1	TX and RX+
2	1	TX and RX-
3	2	TX and RX+
4	3	TX and RX+
5	3	TX and RX-
6	2	TX and RX-
7	4	TX and RX+
8	4	TX and RX-

Appendix B

Translated Safety Statements

Important: This appendix contains multiple-language translations for the safety statements in this guide.

Wichtig: Dieser Anhang enthält Übersetzungen der in diesem Handbuch enthaltenen Sicherheitshinweise in mehreren Sprachen.

Importante: Este apéndice contiene traducciones en múltiples idiomas de los mensajes de seguridad incluidos en esta guía.

Important: Cette annexe contient la traduction en plusieurs langues des instructions de sécurité figurant dans ce guide.

Importante: Questa appendice contiene traduzioni in più lingue degli avvisi di sicurezza di questa guida.

Важно: Данное приложение содержит переводы с разных языков по безопасности, приведенное в данном руководстве.

Laser Safety Notices

1 **Warning:** Class 1 Laser product.

2 **Warning:** Do not stare into the laser beam.

Electrical Safety Notices

3 **Warning:** To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the LAN cables.

4 **Warning:** Do not work on equipment or cables during periods of lightning activity.

5 **Warning:** Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord.

6 **Warning:** Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.

7 Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible.

8 **Caution:** Air vents must not be blocked and must have free access to the room ambient air for cooling.

9 **Warning:** Operating Temperature. This product is designed for a maximum ambient temperature of 40° degrees C.

10 All Countries: Install product in accordance with local and National Electrical Codes.

11 **Warning:** As a safety precaution, install a circuit breaker with a minimum value of 15 Amps between the equipment and the DC power source.

Always connect the wires to the LAN equipment first before you connect the wires to the circuit breaker. Do not work with HOT feeds to avoid the danger of physical injury from electrical shock. Always be sure that the circuit breaker is in the OFF position before connecting the wires to the breaker.

12 **Warning**: Do not strip more than the recommended amount of wire. Stripping more than the recommended amount can create a safety hazard by leaving exposed wire on the terminal block after installation.

13 **Warning:** When installing this equipment, always ensure that the frame ground connection is installed first and disconnected last.

14 **Warning:** Check to see if there are any exposed copper strands coming from the installed wire. When this installation is done correctly there should be no exposed copper wire strands extending from the terminal block. Any exposed wiring can conduct harmful levels of electricity to persons touching the wires.

15 This system works with positive grounded or negative grounded DC systems.

16 **Warning:** Only trained and qualified personnel are allowed to install or to replace this equipment.

17 **Caution:** The attached mounting brackets must be used to securely mount the device on the wall.

18 **Caution:** Do not install in direct sunlight, or a damp or dusty place.

19 **Caution:** Do not expose the gateway device to moisture or water.

20 **Caution:** If the gateway device is installed indoors, make sure that the site is a dust-free environment. The site should provide for easy access to the ports of the gateway device.This will make it easy for you to connect and disconnect cables, as well as view the LEDs.

21 **Warning:** The power source for the gateway unit should be located near the unit and should be easily accessible.

22 **Caution:** To allow proper cooling of the gateway device, make sure that the air flow around the unit and through its heatsink cooling fins on the rear is not restricted.

23 Circuit Overloading: Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

24 **Caution:** Risk of explosion if battery is replaced by an incorrect type. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer’s instructions.

Attention: Le remplacement de la batterie par une batterie de type incorrect peut provoquer un danger d’explosion. La remplacer uniquement par une batterie du même type ou de type équivalent recommandée par le constructeur. Les batteries doivent être éliminées conformément aux instructions du constructeur.

25 **Warning:** For centralized DC power connection, install only in a restricted access area.

26 A tray cable is required to connect the power source if the unit is powered by centralized DC power. The tray cable must be a UL listed Type TC tray cable and rated at 600 V and 90 degrees C, with three conductors, minimum 14 AWG.

27 **Warning:** Mounting of the equipment in the rack should be such that a hazardous condition is not created due to uneven mechanical loading.

28 **Warning:** Remove all metal jewelry, such as rings and watches, before installing or removing a line card from a powered-on chassis.

29 Use dedicated power circuits or power conditioners to supply reliable electrical power to the device.

30 **Warning:** The chassis may be heavy and awkward to lift. Allied Telesyn recommends that you get assistance when mounting the chassis in an equipment rack.

31 **Warning:** Do not look directly at the fiber optic cable ends or inspect the cable ends with an optical lens.

32 **Warning:** This unit might have more than one power cord. To reduce the risk of electric shock, disconnect all power cords before servicing the unit.

33 **Warning:** Only trained and qualified personnel are allowed to install or to replace this equipment.

34 **Warning:** The power input must be provided from SELV source only, per IEC 60950. Do not connect to a centralized DC battery bank.

35 UL recognized wires of 18 AWG minimum should be provided by the installer.

36 UL recognized wires of 22 AWG minimum should be provided by the installer.

37 **Caution:** Power to the hub must be sourced only from the adapter.

38 If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than the room ambient temperature. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer’s maximum rated ambient temperature (Tmra).

39 **Caution:** Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

40 **Warning:** Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuits (e.g., use of power strips).

Telecommunications Compliance Notices

41 **Warning:** When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electronic shock, and injury to persons, including the following:

Do not use this product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub in a wet basement or near a swimming pool.

Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

Do not use the telephone to report a gas leak in the vicinity of the leak.

42 **Warning:** Before connecting to the telephony (TEL) ports on the gateway device, make sure to disconnect the Public Switch Telephone Network (PSTN) feed to the premises.

43 **Warning:** To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

Lasersicherheitshinweise

1 **Achtung:** Laserprodukt der Klasse 1.

2 **Achtung:** Blicken Sie nicht in den Laserstrahl.

Elektrische Sicherheitshinweise

3 **Achtung:** Um Stromschläge zu vermeiden, darf die Abdeckung nicht entfernt werden. Die Ausrüstung enthält keine benutzerwartbaren Teile. Diese Einheit führt gefährliche Spannungen und sollte nur durch einen ausgebildeten und qualifizierten Techniker geöffnet werden. Zur Vermeidung der Möglichkeit von Stromschlägen ist die Stromversorgung des Produkts vor dem Anschließen oder Abtrennen von LAN-Kabeln zu unterbrechen.

4 **Achtung:** Bei Gewittern und Blitzaktivität dürfen keine Arbeiten an der Ausrüstung oder an Kabeln erfolgen.

5 **Achtung:** Das Stromkabel dient als Abtrennungselement. Zum Abschalten der Ausrüstung Stromkabel abziehen.

6 **Achtung:** Ausrüstung der Klasse I. Diese Ausrüstung muss geerdet werden. Der Stromstecker muss an eine vorschriftsmäßig geerdete Steckdose angeschlossen werden. Eine inkorrekt verdrahtete Steckdose kann gefährliche Spannungen auf zugängliche Metallteile aufbringen.

7 Steckbare Ausrüstung. Die Steckdose sollte in der Nähe der Ausrüstung installiert und leicht zugänglich sein.

8 **Vorsicht:** Belüftungsöffnungen dürfen nicht blockiert werden und müssen zur Kühlung durch die Umluft frei zugänglich sein.

9 **Achtung:** Betriebstemperatur. Dieses Produkt ist für eine maximale Umgebungstemperatur von 40° C konzipiert.

10 Alle Länder: Dieses Produkt muss entsprechend den örtlichen und nationalen Elektrizitätsvorschriften installiert werden.

11 **Achtung:** Als Sicherheitsvorkehrung sollte ein Überlastschalter mit einem minimalen Nennwert von 15 Ampere zwischen der Ausrüstung und der Gleichstromversorgung installiert werden.

Vor dem Anschluss der Kabel am Überlastschalter sollten stets zuerst die Kabel an die LAN-Ausrüstung angeschlossen werden. Zur Vermeidung von Verletzungen in Folge von Stromschlag sollte nicht mit SPANNUNGSFÜHRENDEN Versorgungen gearbeitet werden. Vor dem Anschluss der Kabel an den Überlastschalter ist stets Sorge zu tragen, dass der Überlastschalter AUSGESCHALTET ist.

12 **Achtung:** Nicht mehr als die empfohlene Kabellänge abisolieren. Durch das Abisolieren von mehr als der empfohlenen Länge können gefährliche blanke Drähte aus dem Anschlussblock hervorragen.

13 **Achtung:** Beim Installieren dieser Ausrüstung ist stets darauf zu achten, dass die Rahmenerdung zuerst angeschlossen und zuletzt abgetrennt wird.

14 **Achtung:** Das installierte Kabel muss auf etwaige freiliegende Kupferlitzen überprüft werden. Bei der korrekten Installation sollten keine freiliegenden Kupferdrahtlitzen aus dem Anschlussblock herausragen. Jegliche freiliegende Drähte können für Personen, die sie berühren, gefährlichen Strom führen.

15 Dieses System kann in Verbindung mit positiv geerdeten oder negativ geerdeten Gleichstromsystemen verwendet werden.

16 **Achtung:** Das Installieren und der Austausch dieser Ausrüstung ist nur ausgebildetem und qualifiziertem Personal gestattet.

17 **Vorsicht:** Mechanische Montage. Zur sicheren Wandmontage des Geräts sind die beiliegenden Montageklammern zu verwenden.

18 **Vorsicht:** Das Gerät darf nicht an feuchten, staubigen oder direktem Sonnenlicht ausgesetzten Orten installiert werden.

19 **Vorsicht:** Das Gateway-Gerät darf keiner Feuchtigkeit oder Wasser ausgesetzt werden.

20 **Vorsicht:** Bei der Innenraummontage des Gateway-Geräts ist darauf zu achten, dass es in einer staubfreien Umgebung installiert wird. Es sollte ein Installationsort gewählt werden, an dem die Ports am Gateway-Gerät gut zugänglich sind, um das Anschließen und Abtrennen von Kabeln zu erleichtern und den freien Blick auf die LEDs zu ermöglichen.

21 **Achtung:** Die Stromquelle für die Gateway-Einheit sollte sich in ihrer Nähe befinden und leicht zugänglich sein.

22 **Vorsicht:** Zur Gewährleistung der erforderlichen Kühlung des Gateway-Geräts ist darauf zu achten, dass der Luftfluss um die Einheit und über seine an der Rückseite befindlichen Kühlrippen nicht behindert wird.

23 Stromkreisüberlastung: Der Anschluss der Ausrüstung an den Versorgungsstromkreis und die möglichen Auswirkungen der Überlastung von Schaltkreisen auf den Überstromschutz und die Versorgungskabel sollten erwogen werden. In diesem Zusammenhang sollten auch die auf dem Typenschild der Ausrüstung angegebenen Nennwerte entsprechend berücksichtigt werden.

24 **Vorsicht:** Beim Ersetzen der Batterie durch einen inkorrekten Typ besteht Explosionsgefahr. Die Batterie sollte nur durch denselben oder einen gleichwertigen, vom Hersteller empfohlenen Typ ersetzt werden. Die Batterien sind gemäß der Anleitungen des Herstellers zu entsorgen.

25 **Achtung:** Bei einem zentralisierten Gleichstromanschluss darf die Installation nur in einem Bereich mit gesichertem Zugang erfolgen.

26 Bei der Versorgung der Einheit durch zentralisierten Gleichstrom ist ein Tray-Kabel zum Anschluss der Stromquelle erforderlich. Das Tray-Kabel muss ein UL-gelistetes Typ-TC-Tray-Kabel mit einer Nennspannung von 600 V und einer Nenntemperatur von 90 Grad Celsius, mit drei Leitern und mindestens 14 AWG sein.

27 **Achtung:** Bei der Rackmontage der Ausrüstung ist darauf zu achten, dass keine Gefahrenbedingung durch ungleichmäßige mechanische Belastung geschaffen wird.

28 **Achtung:** Vor dem Installieren oder Ausbauen einer Leitungskarte in das bzw. aus dem Chassis einer eingeschalteten Einheit ist aller metallischer Schmuck wie zum Beispiel Ringe oder Uhren zu entfernen.

29 Zur zuverlässigen Stromversorgung des Geräts sollte ein dedizierter Stromkreis oder Netzfilter und Stabilisator (Power Conditioner) verwendet werden.

30 **Achtung:** Das Chassis kann schwer und schwierig zu heben sein. Allied Telesyn empfiehlt, bei der Rackmontage des Chassis Hilfspersonal heranzuziehen.

31 **Achtung:** Sehen Sie nicht direkt auf die Enden der Faseroptikkabel und inspizieren Sie die Kabelenden nicht mit einer optischen Linse.

32 **Achtung:** An dieser Einheit kann mehr als ein Stromkabel vorhanden sein. Vor Wartungsarbeiten sollten zur Reduzierung des Stromschlagrisikos alle Stromkabel abgetrennt werden.

33 **Achtung:** Das Installieren und der Austausch dieser Ausrüstung ist nur ausgebildetem und qualifiziertem Personal gestattet.

34 **Achtung:** Der Stromeingang darf nur über eine SELV-Quelle gemäß IEC 60950 erfolgen. Eine zentralisierte Gleichstrom-Batteriebank darf nicht angeschlossen werden.

35 UL-anerkannte Kabel mit mindestens 18 AWG sollten vom Installateur bereitgestellt werden.

36 UL-anerkannte Kabel mit mindestens 22 AWG sollten vom Installateur bereitgestellt werden.

37 **Vorsicht:** Die Stromversorgung des Hub darf nur über den Adapter erfolgen.

38 Bei der Installation in einer geschlossenen oder einer mehrere Einheiten umfassenden Anordnung kann die Temperatur der Betriebsumgebung die Raumtemperatur übersteigen. Es sollte deshalb darauf geachtet werden, das die Ausrüstung in einer Umgebung installiert wird, die der maximalen Nennumgebungstemperatur (Tmra) des Herstellers entspricht.

39 **Vorsicht:** Beim Installieren der Ausrüstung in einem Rack ist darauf zu achten, dass der für den sicheren Betrieb der Ausrüstung erforderliche Luftfluss nicht beeinträchtigt wird.

40 **Achtung:** Es sollte eine zuverlässige Erdung der rackmontierten Ausrüstung aufrechterhalten werden. Andere Versorgungsleitungen als direkte Verbindungen zu den Zweigschaltungen (z. B. Verwendung von Verlängerungskabeln) sollten besonders sorgfältig erwogen werden.

Telekommunikationskonformitätshinweise

41 ⚠ **Achtung:** Bei der Verwendung Ihrer Telefonausrüstung sollten zur Reduzierung der Brand-, Stromschlag und Verletzungsgefahr stets grundsätzliche Sicherheitsrichtlinien, einschließlich der folgenden, befolgt werden:

Verwenden Sie dieses Produkt nicht in der Nähe von Wasser, zum Beispiel in der Nähe einer Badewanne, einer Waschschüssel, eines Spülbeckens, eines Waschbottichs, in einem nassen Kellerraum oder in der Nähe eines Schwimmbads.

Vermeiden Sie die Verwendung eines Telefons (mit Ausnahme eines schnurlosen Typs) während eines Gewitters. Es könnte eine geringfügige Blitzschlaggefahr bestehen.

Verwenden Sie das Telefon nicht, um das Austreten von Gas zu melden, wenn es sich in der Nähe dieser Gefahrenquelle befindet.

42 ⚠ **Achtung:** Vergewissern Sie sich vor dem Anschluss der Telefonports (TEL) am Gateway-Gerät, dass die Verbindung des Gebäudes zum öffentlichen Telefonnetz (PTSN) unterbrochen ist.

43 **Achtung:** Verwenden Sie zur Reduzierung der Brandgefahr nur Telekommunikationsleitungskabel Nr. 26 AWG oder stärkeres Kabel.

Avisos de seguridad láser

1 **Atención:** Producto láser de clase 1.

2 **Atención:** No mire el rayo láser.

Avisos de seguridad eléctricas

3 **Atención:** Para evitar la electrocución, no quite la tapa. La unidad no contiene piezas que pueda reparar el usuario. Esta unidad contiene tensiones peligrosas y sólo la debe abrir un técnico convenientemente formado y cualificado. Para evitar todo riesgo de electrocución, desconecte la alimentación eléctrica del producto antes de conectar o desconectar los cables de la LAN.

4 **Atención:** No manipule el equipo ni los cables mientras haya rayos en la atmósfera.

5 **Atención:** El cable de alimentación se utiliza como dispositivo de desconexión. Para desactivar el equipo, desconecte el cable de alimentación.

6 **Atención:** Equipo de Clase I. Este equipo debe conectarse a tierra. La clavija de alimentación se debe enchufar a una toma eléctrica convenientemente conectada a tierra. El uso de una toma mal conectada podría provocar tensiones peligrosas en las piezas metálicas accesibles para el usuario.

7 El equipo requiere conexión. La toma eléctrica debe estar situada cerca del equipo y ser de fácil acceso.

8 **Precaución:** Las rejillas de ventilación no deben estar obstruidas y deben tener libre acceso al aire de la sala para facilitar la refrigeración.

9 **Atención:** Temperatura de funcionamiento. Este producto está diseñado para funcionar con una temperatura ambiente máxima de 40 ºC.

10 Todos los países: Instale el producto de acuerdo con las recomendaciones de la normativa sobre instalaciones eléctricas de su país.

11 **Atención:** Como medida de seguridad, instale un disyuntor con un valor mínimo de 15 A entre el equipo y la toma de alimentación CC.

Conecte siempre los cables a los equipos de la LAN antes de conectarlos al disyuntor. No trabaje con cables activos para evitar el riesgo de lesiones físicas derivadas de una descarga eléctrica. Asegúrese siempre de que el disyuntor está en la posición desconectada antes de conectar los cables.

12 **Atención:** No pele más que la longitud recomendable de cable. Si se supera dicha longitud, puede producirse un riesgo al quedar cable al descubierto en el bloque de terminales después de la instalación.

13 **Atención:** Cuando instale el equipo, asegúrese de instalar primero la conexión a tierra del bastidor y de desconectarla en último lugar.

14 **Atención:** Compruebe si hay algún hilo de cobre al descubierto que proceda del cable instalado. Cuando la instalación se realiza correctamente, no debe quedar ningún hilo de cobre al descubierto fuera del bloque de terminales. Todo cable descubierto puede conducir un nivel peligroso de electricidad a las personas que lo toquen.

15 Este sistema funciona con sistemas CC con conexión a tierra positiva y negativa.

16 **Atención:** Este equipo sólo debe ser instalado y manipulado por personal convenientemente formado y cualificado.

17 **Precaución:** Utilice los soportes de montaje que acompañan al dispositivo para montarlo en un muro.

18 **Precaución:** No instale el dispositivo expuesto a la luz solar directa ni en un lugar húmedo o con polvo.

19 **Precaución:** No exponga el dispositivo de puerta de enlace a la humedad o el agua.

20 **Precaución:** Si el dispositivo de puerta de enlace se instala en el exterior, asegúrese de que el entorno esté libre de polvo. El emplazamiento debe permitir un acceso fácil a los puertos del dispositivo de puerta de enlace. De esta forma, resultará fácil conectar y desconectar los cables y ver los indicadores LED.

21 **Atención:** La toma eléctrica de la unidad de puerta de enlace debe estar situada cerca de la unidad y ser de fácil acceso.

22 **Precaución:** Para permitir la refrigeración adecuada del dispositivo de puerta de enlace, asegúrese de no limitar la circulación de aire alrededor de la unidad ni a través de las aletas de refrigeración del radiador de la parte trasera.

23 Sobrecarga de circuitos: Tenga en cuenta la conexión del equipo al circuito de alimentación y el posible efecto de la sobrecarga de los circuitos en la protección contra excesos de corriente y en los cables de alimentación. Para ello, consulte los valores que se indican en la placa de características del equipo.

24 **Precaución:** Si la batería se sustituye por otra de tipo incorrecto, existe un peligro de explosión. Sustitúyala únicamente por otra batería del mismo tipo, o equivalente, recomendada por el fabricante. Deseche la batería de acuerdo con las instrucciones del fabricante.

25 **Atención:** En el caso de una conexión CC centralizada, instale la unidad en una zona de acceso restringido.

26 Utilice un cable de control para la conexión a la toma eléctrica si la unidad utiliza alimentación CC centralizada. El cable de control debe ser de tipo TC, figurar en la lista UL y tener una capacidad nominal de 600 V y 90 ºC, con tres conductores y de un mínimo de14 AWG.

27 **Atención:** Si el equipo se monta en un rack, se deberá evitar todo peligro de irregularidad en la carga mecánica.

28 **Atención:** Quítese todas las joyas metálicas, como anillos y relojes, antes de instalar o quitar una tarjeta de red de un chasis con alimentación eléctrica.

29 Utilice circuitos de alimentación dedicados o acondicionadores de alimentación para suministrar energía eléctrica fiable al dispositivo.

30 **Atención:** El chasis puede ser pesado y difícil de levantar. Allied Telesyn recomienda buscar ayuda para montar el chasis en un rack.

31 **Atención:** No mire directamente los extremos del cable de fibra óptica ni los inspeccione con una lente óptica.

32 **Atención:** Esta unidad puede tener más de un cable de alimentación. Para reducir el peligro de electrocución, desconecte todos los cables de alimentación antes de manipular la unidad.

33 **Atención:** Este equipo sólo debe ser instalado y manipulado por personal convenientemente formado y cualificado.

34 **Atención:** La alimentación sólo debe proceder de una toma SELV, conforme a la norma UEC 60950. No conecte la unidad a un banco centralizado de baterías CC.

35 El instalador debe suministrar cables que figuren en la lista UL de un mínimo de 18 AWG.

36 El instalador debe suministrar cables que figuren en la lista UL de un mínimo de 22 AWG.

37 **Precaución:** La alimentación del concentrador sólo debe proceder del adaptador.

38 Si la unidad se instala en un conjunto de rack cerrado o con varias unidades, la temperatura ambiente de funcionamiento del entorno del rack puede ser superior a la de la sala. El equipo se debe instalar en un entorno que no supere la temperatura ambiente nominal máxima (Tmra) indicada por el fabricante.

39 **Precaución:** La instalación en un rack debe realizarse de forma que se garantice el caudal de aire necesario para el buen funcionamiento del equipo.

40 **Atención:** Se debe mantener en todo momento la fiabilidad de la conexión a tierra de los equipos montados en rack. Preste especial atención a las conexiones que no procedan directamente de los circuitos de bifurcación (por ej., regletas de conexión).

Avisos de conformidad de telecomunicaciones

41 ⚠ **Atención:** Cuando utilice su equipo telefónico, deberá adoptar las siguientes precauciones de seguridad básicas para reducir el riesgo de incendio, descarga electrónica y lesiones:

No utilice este producto en zonas húmedas; por ejemplo, cerca de una bañera, un lavabo o un fregadero, en un sótano húmedo o cerca de una piscina.

Evite el uso de teléfonos no inalámbricos durante una tormenta eléctrica. a fin de evitar el riesgo de electrocución como consecuencia de un rayo.

No utilice el teléfono para notificar una fuga de gas en las inmediaciones de la misma.

42 ⚠ **Atención:** Antes de realizar la conexión a los puertos de telefonía (TEL) del dispositivo de puerta de enlace, asegúrese de desconectar la alimentación de la red telefónica conmutada pública (PSTN/RTC) de las instalaciones.

43 **Atención:** Utilice sólo cable de telecomunicación 26 AWG o superior para reducir el riesgo de incendio.

Avis de sécurité laser

1 **Avertissement:** Produit laser de classe 1.

2 **Avertissement:** Ne pas observer directement le rayon laser.

Avis de sécurité électrique

3 **Avertissement:** Pour éviter tout risque d'électrocution, ne pas déposer le capot. L'appareil ne contient aucun composant réparable par l'utilisateur. Il est exposé à des tensions dangereuses et ne doit être ouvert que par un technicien compétent et qualifié. Pour éviter tout risque d'électrocution, débrancher l'alimentation électrique du produit avant de connecter ou de déconnecter les câbles de réseau local.

4 **Avertissement:** Ne pas travailler sur cet équipement ni sur ses câbles en présence de foudre.

5 **Avertissement:** Le cordon d'alimentation est utilisé en tant que mécanisme de déconnexion. Pour mettre l'équipement hors tension, débrancher le cordon d'alimentation.

6 **Avertissement:** Équipement de classe I. Cet équipement doit être mis à la terre. La prise d'alimentation doit être branchée sur une sortie d'alimentation correctement mise à la terre. Dans le cas contraire, les pièces métalliques accessibles risquent d'être soumises à des tensions dangereuses.

7 Équipement à connecter. La prise d'alimentation doit se situer à proximité de l'équipement et être facilement accessible.

8 **Attention:** Les orifices de ventilation doivent rester libres de toute obstruction pour pouvoir assurer le refroidissement par l'air de la pièce.

9 **Avertissement:** Température de fonctionnement. Ce produit a été conçu pour fonctionner à une température ambiante maximum de 40° C.

10 Dans tous les pays: installer le produit conformément aux réglementations électriques nationales et locales.

11 **Avertissement:** Par mesure de sécurité, installer un coupe-circuit d'une intensité minimum de 15 ampère entre l'équipement et la source d'alimentation en courant continu.

Toujours connecter les fils à l'équipement de réseau local avant de les raccorder au coupe-circuit. Ne pas travailler sur des composants d'alimentation CHAUDS pour éviter tout risque d'accident corporel par électrocution. Toujours s'assurer que le coupe-circuit est DÉSACTIVÉ avant de connecter les fils au coupe-circuit.

12 **Avertissement**: Respecter les recommandations pour dénuder les fils. Un dénudage excessif risque de présenter des risques pour la sécurité en laissant le fil exposé sur le bornier après l'installation.

13 **Avertissement:** Lors de l'installation de cet équipement, toujours s'assurer que la connexion de terre de la structure est installée en premier et déconnectée en dernier.

14 **Avertissement:** Vérifier la présence de fils de cuivre exposés sur le câble d'installation. Si l'installation a été correctement réalisée, aucun fil de cuivre sortant du bornier ne doit être exposé. Tout fil exposé peut exposer les personnes qui y touchent à une tension dangereuse.

15 Ce système fonctionne avec les mécanismes c.c. de mise à la terre négative ou positive.

16 **Avertissement:** Seul le personnel qualifié et compétent est autorisé à installer ou à remplacer cet équipement.

17 **Attention:** Les supports de montage fournis doivent être utilisés pour fixer l'équipement au mur.

18 **Attention:** Ne pas installer l'équipement au soleil, ni dans un endroit humide ou poussiéreux.

19 **Attention:** Ne pas exposer le périphérique servant de passerelle à l'eau ou l'humidité.

20 **Attention:** Si le périphérique servant de passerelle est installé à l'intérieur, s'assurer qu'il se trouve dans en endroit non poussiéreux. Le site doit offrir un accès aisé au port du périphérique servant de passerelle afin de faciliter la connexion et la déconnexion des câbles, tout en permettant d'observer aisément les voyants.

21 **Avertissement:** La source d'alimentation d'une unité servant de passerelle doit se situer à proximité de l'unité et rester facilement accessible.

22 **Attention:** Pour permettre le refroidissement correct de l'unité servant de passerelle, s'assurer que l'air circule librement autour de l'unité et à travers les ailettes du dissipateur thermique à l'arrière.

23 Surcharge du circuit: En connectant l'équipement au circuit d'alimentation, tenir compte des répercussions éventuelles d'une surcharge du circuit sur la protection contre les surcharges et le câblage d'alimentation. Tenir compte des valeurs nominales indiquées sur la plaque signalétique de l'équipement.

24 **Attention:** Le remplacement de la batterie par une batterie de type incorrect peut provoquer un danger d'explosion. La remplacer uniquement par une batterie du même type ou de type équivalent recommandée par le constructeur. Les batteries doivent être éliminées conformément aux instructions du constructeur.

25 **Avertissement:** Pour une connexion d'alimentation c.c. centralisée, installer uniquement dans un emplacement d'accès limité.

26 Un chemin de câble doit être utilisé pour la connexion à la source d'alimentation si l'unité est alimentée par alimentation c.c. centralisée. Le chemin de câble doit être de type TC agréé UL, intensité nominale de 600 V, 90 °C, trois conducteurs, 14 AWG minimum.

27 **Avertissement:** L'installation de l'équipement sur un rack doit se faire sans provoquer de danger par un chargement mécanique déséquilibré.

28 **Avertissement:** Retirer les bijoux en métal, tels que les bagues et les montres, avant d'installer ou de retirer une carte d'un châssis sous tension.

29 Utiliser des circuits d'alimentation ou des unités de conditionnement dédiés pour fournir une alimentation électrique fiable à l'équipement.

30 **Avertissement:** Le châssis peut être lourd et difficile à soulever. Allied Telesyn recommande de demander de l'aide pour installer le châssis dans un rack.

31 **Avertissement:** Ne pas observer directement l'extrémité des câbles en fibres optiques ou les inspecter à l'aide d'un objectif optique.

32 **Avertissement:** Cette unité peut être équipée de plusieurs cordons d'alimentation. Pour réduire les risques d'électrocution, débrancher tous les cordons d'alimentation avant de procéder à la maintenance de l'unité.

33 **Avertissement:** Seul le personnel qualifié et compétent est autorisé à installer ou à remplacer cet équipement.

34 **Avertissement:** L'alimentation doit être fournie par une source SELV uniquement, conformément à la norme IEC 60950. Ne pas connecter à une rangée de batteries c.c. centralisée.

35 L'installateur doit fournir des fils de 18 AWG agréés UL.

36 L'installateur doit fournir des fils de 22 AWG agréés UL.

37 **Attention:** Le concentrateur doit uniquement être alimenté par l'adaptateur.

38 Si l'équipement est installé dans un rack fermé ou à plusieurs unités, la température ambiante de fonctionnement du rack risque d'être supérieure à la température ambiante de la pièce. Il convient d'en tenir compte avant d'installer l'équipement dans un environnement conforme à la température ambiante maximum du constructeur.

39 **Attention:** Réduction de la circulation d'air: l'installation de l'équipement dans un rack ne doit pas compromettre la circulation d'air requise pour son fonctionnement sécurisé.

40 **Avertissement:** Une terre fiable doit être maintenue sur l'équipement en rack. Faire plus particulièrement attention aux connexions d'alimentation autres que les connexions directes sur les circuits de dérivation (par ex. utilisation de barrettes d'alimentation).

Télécommunications – Avis de conformité

41 **Avertissement:** Les précautions élémentaires de sécurité doivent être systématiquement respectées en utilisant l'équipement téléphonique pour réduire les risques d'incendie, d'électrocution et d'accident corporel, notamment:

Ne pas utiliser ce produit près d'une source d'eau, telle qu'une baignoire, un lavabo, un évier ou un baquet dans un sous-sol humide ou près d'une piscine.

Éviter d'utiliser le téléphone (autre que sans fil) en présence de foudre pendant un orage. La foudre peut entraîner un léger risque d'électrocution.

Ne pas utiliser le téléphone pour signaler une fuite de gaz à proximité de la fuite.

42 **Avertissement:** Avant de connecter les ports téléphoniques (TEL) sur le périphérique servant de passerelle, veiller à déconnecter les alimentations RTPC (réseau téléphonique public commuté) du local.

43 **Avertissement:** Pour réduire les risques d'incendie, utiliser uniquement un cordon de télécommunication n° 26 AWG ou supérieur.

Indicazioni sulla sicurezza laser

1 **Avvertenza:** Prodotto laser Classe 1.

2 **Avvertenza:** Non fissare il raggio laser.

Indicazioni sulla sicurezza elettrica

3 **Avvertenza:** Per evitare scosse elettriche, non rimuovere la copertura. All'interno non sono presenti componenti utilizzabili dall'utente. Questa unità presenta voltaggi rischiosi e deve essere aperta solo da un tecnico qualificato ed esperto. Per eliminare il rischio di scosse elettriche, scollegare il cavo di alimentazione del prodotto prima di collegare o scollegare i cavi della rete locale LAN.

4 **Pericolo:** Non utilizzare l'apparecchiatura o maneggiare i cavi in caso di lampi.

5 **Attenzione:** Il cavo di alimentazione viene utilizzato come dispositivo di scollegamento. Per togliere la corrente all'apparecchiatura, scollegare il cavo di alimentazione.

6 **Attenzione:** Apparecchiatura Classe I. Questa apparecchiatura deve essere messa a terra. Il cavo di alimentazione deve essere collegato a un socket correttamente cablato e messo a terra. Un socket non correttamente cablato potrebbe trasferire voltaggi pericolosi su componenti di metallo accessibili.

7 Apparecchiatura cablata. Il socket deve essere installato accanto all'apparecchiatura e deve essere facilmente accessibile.

8 **Attenzione:** Le prese d'aria non devono essere ostruite e devono avere libero accesso all'aria dell'ambiente per raffreddare l'apparecchiatura.

9 Temperatura di esercizio. Questo prodotto è progettato per una temperatura ambiente massima di 40°C.

10 Per tutti i paesi: Installare il prodotto in conformità con le normative sull'elettricità locali e nazionali.

11 **Avvertenza:** Per precauzione, installare un salvavita con un valore minimo di 15 ampere tra l'apparecchiatura e la fonte di alimentazione CC.

Collegare i cavi all'apparecchiatura LAN prima di collegarli al salvavita. Per evitare il rischio di danni fisici causati da scosse elettriche, non utilizzare l'apparecchiatura ad alte temperature. Verificare che il salvavita sia in posizione OFF prima di collegare i cavi.

12 **Avvertenza:** Non scollegare più cavi di quelli raccomandati: può essere pericoloso lasciare dei cavi esposti sul blocco terminale dopo l'installazione.

13 **Avvertenza:** Quando si installa l'apparecchiatura, verificare che il collegamento di messa a terra FG (frame ground) sia installato per primo e disinstallato per ultimo.

14 **Avvertenza:** Verificare che non sporgano fili di rame dai cavi installati. Se l'installazione viene effettuata correttamente, non vi sono fili di rame scoperti, sporgenti dal blocco terminale. Gli eventuali fili scoperti possono condurre livelli di elettricità dannosi sulle persone che li toccano.

15 Questa apparecchiatura funziona con sistemi CC con messa a terra a polarità positiva o negativa.

16 **Avvertenza:** Solo personale esperto e qualificato può installare o sostituire l'apparecchiatura.

17 **Attenzione:** Per un montaggio a muro sicuro del dispositivo, è necessario utilizzare i supporti di montaggio forniti in dotazione.

18 **Attenzione:** Non installare il dispositivo in un luogo esposto alla luce solare, umido o polveroso.

19 **Attenzione:** Non esporre il dispositivo gateway all'umidità o all'acqua.

20 **Attenzione:** Se il gateway è installato in un ambiente chiuso, verificare che l'ambiente sia privo di polvere. Il sito di installazione dovrebbe disporre di un facile accesso alle porte del gateway. Questo vi consentirà di collegare e scollegare i cavi e visualizzare i LED in modo semplice.

21 **Avvertenza:** La fonte di alimentazione dell'unità gateway deve essere posizionata vicino all'unità, in un luogo facilmente accessibile.

22 **Attenzione:** Per consentire il raffreddamento appropriato del dispositivo gateway, verificare che il flusso d'aria attorno all'unità e attraverso le ventole di raffreddamento per la dispersione del calore poste sul retro non sia ostruito.

23 Sovraccarico del circuito: Prestare attenzione al collegamento dell'apparecchiatura al circuito di alimentazione e all'effetto che il sovraccarico dei circuiti potrebbe avere sulla protezione contro i sovraccarichi di corrente e sui cavi di alimentazione. In tal senso, tenere presente i valori riportati sull'etichetta dell'apparecchiatura.

24 **Attenzione:** Se si sostituisce la batteria con un tipo di batteria non corretto, si rischia di provocare un'esplosione. Sostituire la batteria solo con una dello stesso tipo o di un tipo equivalente raccomandato dal produttore. Eliminare le batterie usate secondo le istruzioni del produttore.

25 **Avvertenza:** In caso di alimentazione CC centralizzata, installare l'apparecchiatura solo in aree ad accesso limitato.

26 Se l'unità ha un'alimentazione CC centralizzata, è necessario un cavo di tipo TC approvato UL, valutato a 600 V e 90°C, con tre conduttori, di minimo 14 AWG.

27 **Avvertenza:** Il montaggio dell'apparecchiatura in rack deve essere effettuato in modo da evitare di provocare rischi dovuti a un carico meccanico irregolare.

28 **Avvertenza:** Rimuovere tutti gli oggetti di metallo, ad esempio anelli e orologi, prima di installare o estrarre una scheda di linea da un chassis acceso.

29 Utilizzare circuiti di alimentazione o alimentatori dedicati per fornire energia elettrica al dispositivo in modo affidabile.

30 **Avvertenza:** Il chassis potrebbe risultare pesante e scomodo da sollevare. Allied Telesyn consiglia di richiedere assistenza per il montaggio del chassis in rack.

31 **Avvertenza:** Non osservare le estremità dei cavi a fibre ottiche direttamente oppure attraverso una lente ottica.

32 **Avvertenza:** Questa unità potrebbe disporre di più cavi di alimentazione. Per ridurre il rischio di scosse elettriche, scollegare tutti i cavi di alimentazione prima di iniziare la manutenzione dell'unità.

33 **Avvertenza:** Solo personale esperto e qualificato può installare o sostituire l'apparecchiatura.

34 **Avvertenza:** L'alimentazione deve essere fornita da una fonte SELV, come specificato nello standard IEC 60950. Non collegare il dispositivo a una batteria CC centralizzata.

35 I cavi riconosciuti UL di minimo 18 AWG non sono forniti in dotazione.

36 I cavi riconosciuti UL di minimo 22 AWG non sono forniti in dotazione.

37 **Attenzione:** L'hub deve essere alimentato solo mediante l'adattatore.

38 Se l'installazione è posizionata in un ambiente chiuso o in rack multi-unità, la temperatura operativa del rack potrebbe essere maggiore della temperatura ambiente. Per questo motivo, installare l'apparecchiatura in un ambiente compatibile con la temperatura ambiente massima stimata dal produttore (Tmra).

39 **Attenzione:** L'installazione dell'apparecchiatura in rack dovrebbe essere effettuata in modo che il flusso d'aria richiesto per un funzionamento sicuro non venga compromesso.

40 **Attenzione:** È necessario mantenere la messa a terra dell'apparecchiatura montata in rack. Prestare particolare attenzione ai collegamenti di alimentazione non CC ai circuiti periferici (ad esempio all'uso dei cavi di alimentazione).

Indicazioni per la conformità con le norme sulle telecomunicazioni

41 **Avvertenza:** Quando si utilizza l'apparecchiatura telefonica, per ridurre il rischio di incendio, scosse elettriche e danni alle persone, è necessario seguire alcune precauzioni di base per la sicurezza, ad esempio:

Non utilizzare il prodotto in prossimità di acqua, ad esempio, vicino a vasche da bagno, lavabi, lavandini, piscine oppure in ambienti umidi.

Non utilizzare un telefono (di tipo non cordless) durante un temporale: esiste il rischio remoto che i lampi provochino scosse elettriche.

Per segnalare una perdita di gas, non utilizzare il telefono in prossimità della perdita.

42 **Avvertenza:** Prima di utilizzare le porte per il collegamento telefonico (TEL) del dispositivo gateway, verificare che la rete telefonica pubblica (PSTN) sia disconnessa.

43 Per ridurre il rischio di incendi, utilizzare solo un cavo di linea telefonica di 26 AWG o superiore.

Лазерная безопасность

1 **Внимание:** лазерный продукт, класс 1.

2 **Внимание:** Не смотрите прямо в лазерный луч.

Электрическая безопасность

3 **Внимание:** Для предотвращения электрического шока, не снимайте кожух. Внутри нет частей, подлежащих обслуживанию пользователем. Этот устройство – под опасным напряжением и должно открываться только обученным и квалифицированным инженером. Для избежания возможности поражения электрическим током, отсоедините питание перед соединением или отсоединением сетевых кабелей LAN.

4 **Внимание:** Не работайте с оборудованием во время грозы.

5 **Внимание:** Кабель питания используется для отсоединения. Для отсоединения оборудования, отсоедините кабель питания.

6 **Внимание:** Оборудование Класса I. Это оборудование должно быть заземлено. Вилка питания должны быть присоединена к соответствующим образом подключенному заземлению. Неправильное соединение может подвергнуть доступные металлические части действию опасного напряжения.

7 Розетки. Розетка должна быть установлена невдалеке от оборудования и должна быть легко доступной.

8 **Предостережение:** Вентиляционные отверстия не должны быть заблокированы и должен быть свободный доступ к воздуху в комнате для охлаждения.

9 **Внимание:** Рабочая температура. Этот продукт предусмотрен для температуры окружающего воздуха не выше + 40° C.

10 Во всех странах: Инсталлируйте продукт в соответствии с национальными нормами электротехники.

11 **Внимание:** Для безопасности установите прерыватель для максимальной силы тока 15 ампер между оборудованием и источником постоянного тока.

Всегда подсоединяйте провода к сетевому оборудованию (LAN) перед тем, как присоединять кабели к прерывателю. Не работайте с кабелями под напряжением, чтобы избежать поражения электротоком. Перед присоединением проводов к прерывателю, убедитесь, что прерыватель находится в положении ВЫКЛ (OFF).

12 **Внимание:** Не очищайте от изоляции провод больше, чем рекомендовано. Чрезмерное очищение кабеля может составлять опасность после инсталляции.

13 **Внимание:** При инсталляции оборудования, убедитесь, что заземление подключается в первую, а отключается в последнюю очередь.

14 **Внимание:** Проверьте, нет ли на инсталлированных проводков на кабеле. При правильной инсталляции на терминале свободных проводков быть не должно. Открытые провода могут представлять опасность электрического поражения тем лицам, которые прикасаются к проводам.

15 Эта система действует как с плюсовым, так и минусовым заземлением постоянного тока.

16 **Внимание:** Это оборудование должно быть инсталлировано только обученными и квалифицированным работниками.

17 **Предостережение:** Оборудование должно быть надежно прикреплено к стене с помощью скоб.

18 **Предостережение:** Не инсталлируйте на солнцепеке, во влажном или пыльном месте.

19 **Предостережение:** Не подвергайте шлюзовую установку действию влажности или воды.

20 **Предостережение:** Если шлюзовая установка инсталлируется в помещении, позаботьтесь, чтобы в помещении не было пыли. Должен быть обеспечен легкий доступ к портам оборудования, чтобы Вам было легко соединять и отсоединять кабели и видеть светодиоды.

21 **Внимание:** Источник питания должен быть невдалеке от установки, и к нему должен быть удобный доступ.

22 **Предостережение:** Для хорошей вентиляции шлюзовой установки, позаботьтесь, чтобы вокруг установки и через вентиляционные решетки мог свободно циркулировать воздух.

23 Перегрузка контура: Следует подумать о том, какое количество оборудования присоединяется к контуру питания и на возможный эффект перегрузки контуров на защиту перегрузки и провода питания. Следует обращать внимание на указанные предельные показатели на фабричных табличках.

24 **Литиевая батарея:** Должна заменяться только обученным и квалифицированным инженером.

Предостережение: Возможен взрыв при замене неправильным типом батареи. Заменяйте только тем же или эквивалентным типом, рекомендованным производителем. Утилизируйте использованные батареи только в соответствии с указаниями производителя.

25 **Внимание:** Для централизованного подсоединения постоянного тока, устанавливайте только в помещении, доступ к которому ограничен.

26 Для подсоединения источника питания, если установка питается централизованным постоянным током, требуется желобной кабель. Кабель должен быть признанным UL типа и предназначен для 600 В и + 90°C, с тремя кондукторами, минимум 14 AWG (американский калибр).

27 **Внимание:** Установка оборудования на раме должна быть такой, чтобы не создавалось опасности от неровной механической нагрузки.

28 **Внимание:** Снимите все механические украшения, кольца и часы, перед инсталляцией и удалением линейной карты с корпуса под напряжением.

29 Для надежного питания используйте отдельные контуры питания и выравниватели энергии.

30 **Внимание:** Корпус может быть тяжелым и поднять его может быть сложно. Allied Telesyn рекомендует, что при установке корпуса на раме Вам необходимо обеспечить соответствующую помощь.

31 **Внимание:** Не смотрите прямо на торцы волоконно-оптического кабеля и не инспектируйте торцы кабеля с помощью оптической линзы.

32 **Внимание:** Установка может быть оборудована несколькими проводами питания. Перед техническим обслуживанием установки, отсоедините все провода питания.

33 **Внимание:** Оборудование должно обслуживаться и заменяться только обученными и квалифицированными работниками.

34 **Внимание:** Питание должно подаваться только от источника SELV, в соответствии с IEC 60950. Не подключайте к централизованному блоку аккумуляторов постоянного тока.

35 Инсталлятор должен обеспечивать провода, признанные UL, минимум 18 AWG.

36 Инсталлятор должен обеспечивать провода, признанные UL минимум 22 AWG.

37 **Предостережение:** Питание на узел должно подаваться только с адаптера.

38 При монтировке на раме с несколькими установками или в закрытом контуре, рабочая температура оборудования на раме может быть выше, чем температура окружающей среды. Поэтому следует позаботиться о том, чтобы температура не превышала максимальной температуры окружающей среды, указанной производителем (Tmra).

39 **Предостережение:** Уменьшенный воздушный поток: инсталляция оборудования на раме должна быть такой, чтобы не ограничивать циркуляцию воздуха, необходимую для безопасной работы оборудования.

40 **Внимание:** Оборудование на раме необходимо надежно заземлять. Особое внимание следует обращать на соединения питания, помимо прямых соединений к веткам контура (например, на розеточные блоки).

Телекоммуникационное соответствие

41 **Внимание:** При использовании телефонного оборудования, всегда следует обращать внимания на требования безопасности для снижения риска пожара, поражения током и ранения, в том числе:

Не используйте оборудование рядом с водой – например ванной, раковиной или стиральным резервуаров или в мокром подвале рядом с бассейном.

Во время электрической бури не используйте телефон (кроме беспроводного). Есть некоторый риск поражения от молнии.

Не используйте телефон для сообщения об утечке газа вблизи от утечки.

42 **Внимание:** Перед соединения к телефонным портам (TEL) на шлюзовой установке, отсоедините городской телефон (PSTN) от помещения.

43 **Внимание:** Для снижения риска пожара, используйте коммуникационный кабель не меньше 26 AWG.